

10/17/01-02387



Groundwater and Drinking Water Public Health Assessment for Isla de Vieques, Puerto Rico

October 37, 2001

This fact sheet contains highlights of the Groundwater and Drinking Water Public Health Assessment for Isla de Vieques, Puerto Rico, released October 17, 2001. The Agency for Toxic Substances and Disease Registry has addressed, as appropriate, comments received on the **draft** of the water document released for public comment February 20. The overall conclusions drawn in the draft assessment remain the same in the October 17 version.

☐ What is ATSDR?

◆ The Agency for Toxic Substances and Disease Registry (ATSDR) is a federal public health agency with headquarters in Atlanta, Georgia. The agency's mission is to prevent harm to human health from exposure to hazardous substances present in the environment.

☐ Why did ATSDR come to Vieques?

◆ In May 1999, an island resident requested (petitioned) ATSDR to evaluate any health effects of island residents that might be associated with potential releases of hazardous substances as a result of bombing range activities on the island.

☐ How does ATSDR determine if there is a danger to human health at a site?

◆ Exposure Pathways

ATSDR must first find out whether there is a way that people could contact a hazardous substance. Without a way to contact a hazardous substance (an *exposure pathway* to that

substance), a person could not be harmed by the substance.

Exposure can result if people contact a contaminant at its source or if the substance moves from the source to a place where people can contact it. Contaminants can move through air, soil, and water, and, at times, through food we eat. ATSDR looks at air, soil, water, or food *pathways* to determine if hazardous substances could reach people and cause harmful effects to their health.

*To be harmed by a substance,
a
person must first come in contact
with that substance*

◆ Water Pathway

On Vieques, ATSDR first decided to evaluate the water that people drink on the island. The two main sources of water for the residents of Vieques are the public water system (which is supplied from the mainland of Puerto Rico) and drinking water wells, which tap into the island's groundwater. ATSDR then evaluated information on both of these systems and prepared a public health assessment (PHA) to report the results.

ATSDR reviewed the data reported by several investigations of the drinking water on Vieques. The water samples collected for those studies were analyzed according to safe drinking water standards and for evidence of explosives.

❑ What did ATSDR find out about the safety of the drinking water?

A summary of the primary results of ATSDR's investigation is presented on the following page in the form of answers to questions asked by residents of Vieques. More detailed information is available in the PHA.

◆ Is it safe to drink water from the public water supply on Vieques? Yes

Most of the residents of Vieques get their drinking water through a pipeline supply system from the mainland of Puerto Rico. Water from this system was tested by the Puerto Rico Department of Health (PRDOH), the U.S. Environmental Protection Agency (EPA), and by an environmental company hired by the Navy. ATSDR reviewed and evaluated the results of all of those tests and concluded that the public drinking water supply is not being impacted by the bombing range activities and is safe to drink.

In the past, residents obtained their drinking water from wells. Water from private wells, as well as community supply wells, has been tested by PRDOH, EPA and the Navy. Although little water quality data is available prior to 1995, the location and flow patterns of the groundwater suggest that the available data can be used to evaluate past water quality as well. On that basis, ATSDR believes that the water supplied by the water wells on Vieques was not affected by contaminants, except as discussed in the following sections.

◆ Are the water wells on Vieques safe to use in emergencies? Yes

At present, disruptions to the pipeline water supply system due to local emergencies or other problems may occasionally require that residents use drinking water from wells until the pipeline water supply is restored. In the past, progressive saltwater (sea water) intrusion into the groundwater caused water from the

primary water supply wells on the island (Well 2-3, the four "B" wells, and the three Sun Bay wells) to become somewhat salty. ATSDR concluded that *the water from those wells is safe to drink, except for people on sodium-restricted diets.*

Only one of the private wells tested, Well 3-7, was found to be unsafe to drink. The nitrate and nitrite contamination found in the well suggests contamination from agricultural sources or an onsite sewage disposal system. ATSDR has determined that *the water from Well 3-7 is not safe to drink*, especially for children. PRDOH issued a health advisory on this well and notified the local users.

◆ Has groundwater contamination from the bombing range affected the drinking water supply of Vieques? No

Groundwater, like surface water in streams, flows downhill. The Navy Live Impact Area (LIA) bombing range is downhill from the groundwater wells on the island. The groundwater from those wells is geologically isolated from and has not been affected by any groundwater contamination migrating from any potential source area within the LIA.

❑ What comes next?

ATSDR understands that the residents of Vieques need to have their public health questions answered as soon as possible. We will be releasing our findings on other potential environmental pathways of human exposure to hazardous substances as soon as each analysis is completed.

❑ Where can I get more information about ATSDR's activities?

For more information, call Maria Teran-MacIver, Community Involvement Specialist, toll free, at 1-888-42ATSDR (extension 0649), or call Arthur Block, ATSDR Regional Representative, Region 2, in New York at 212-637-4307.

Site:

ISLA DE VIEQUES BOMB RANGE-10-16-01-BL-CRS#A594
VIEQUES, PR
MARK WEBER, HEALTH ASSESSOR



Approved: 7/25/95
OMB No. 0923-0016
Exp. Date: 7/31/98

READER EVALUATION

Division of Health Assessment and Consultation

This questionnaire is designed to help us improve our communications. We would like to know if we have presented our findings clearly. Thank you for taking the time to respond.

- 1) Did you read the entire report? ☐ Yes ☐ No
If not, which topics did you read about? (Check all that apply.)
☐ Summary ☐ Environmental Exposure ☐ Health Effects ☐ Conclusions/Actions
☐ Community Concerns
- 2) How long did it take you to read the report?
☐ Less than 2 hours ☐ 2-4 hours ☐ More than 4 hours

CONCLUSIONS

- 3) Did our report clearly say if people have come into **contact** with contamination?
(Contact means to eat, **drink**, breathe or touch.) Check all that apply.

<i>Soil</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> Possible	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Unclear	<i>Air</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> Possible	<input type="checkbox"/> No	<input type="checkbox"/> Unclear
<i>Water</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> Possible	<input type="checkbox"/> No	<input type="checkbox"/> Unclear	<i>Food Chain</i>	<input type="checkbox"/> Yes	<input type="checkbox"/> Possible	<input type="checkbox"/> No	<input type="checkbox"/> Unclear
- 4) Did our report clearly say if health effects are **likely** from contact?

<i>Soil</i>	<input type="checkbox"/> Likely	<input type="checkbox"/> Unlikely	<input type="checkbox"/> Unclear	<i>Air</i>	<input type="checkbox"/> Likely	<input type="checkbox"/> Unlikely	<input type="checkbox"/> Unclear
<i>Water</i>	<input type="checkbox"/> Likely	<input type="checkbox"/> Unlikely	<input type="checkbox"/> Unclear	<i>Food Chain</i>	<input type="checkbox"/> Likely	<input type="checkbox"/> Unlikely	<input type="checkbox"/> Unclear

RECOMMENDATIONS

- 5) Did our report clearly indicate what we recommend be done next? (Check all that apply.)
☐ Collect more data ☐ Restrict or reduce exposure ☐ Health Study ☐ Health Education
☐ No action at this time

CONTENT

- 6) Does the information in the report support our conclusions and recommendations? ☐ Yes ☐ No

Comments: _____

- 7) Did you receive this report in the context of your job? ☐ Yes ☐ No
If yes, was enough information provided to allow you to take action? ☐ Yes ☐ No
If you needed more information, what kind? ☐ Environmental Exposure ☐ Health Effects

Comments: _____

- 8) Were your health questions answered in the assessment? ☐ Yes ☐ No

If no, what questions do you have? _____

9) Is there information in the report that you found confusing? (Check all that apply.)

☐ Summary ☐ Environmental Exposure ☐ Health Effects ☐ Conclusions/Actions ☐ Community Concerns

Comments: _____

10) Is there information in the report that you found unnecessary? (Check all that apply.)

☐ Summary ☐ Environmental Exposure ☐ Health Effects ☐ Conclusions/Actions ☐ Community Concerns

Comments: _____

11) Which of these categories would best describe you?

- ☐ 1) Concerned member of the community
☐ 2) Government employee
☐ 3) Health care professional
☐ 4) Other (please specify) _____

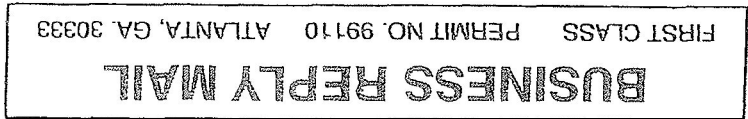
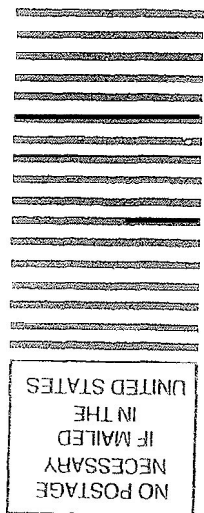
12) How did you obtain your copy of the report?

- ☐ 1) Mailed to you by ATSDR.
☐ 2) Went to the library to use the copy filed there.
☐ 3) Received from a friend.
☐ 4) Other (please specify) _____

Are there any other comments you would like to make about the report?

Please fold in thirds with address on outside, tape closed, and mail back to us. No postage is required. Thank you for responding.

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